What is claimed is:

1. A chemically amplified resist composition, said composition comprising:
   a) an imaging polymer,
   b) acid-labile moieties,
   c) a radiation-sensitive acid generator, and
   d) a base additive component, wherein said base additive component comprises:
      (i) a room temperature solid base, and
      (ii) a liquid low vapor pressure base.

2. The composition of claim 1 wherein said low vapor pressure base has a vapor pressure of about 2 mm at room temperature.

3. The composition of claim 1 wherein said low vapor pressure base has a vapor pressure of about 1 mm at room temperature.

4. The composition of claim 1 wherein said solid base is selected from the group consisting of aromatic amines and imidazoles.

5. The composition of claim 1 wherein said low vapor pressure base is selected from the group consisting of triethanolamine, 1-naphthylamine, 2-naphthylamine, diphenylamine, acetanilide, 3,6,9-triazaundecamethylenediamine, 4,4'-propane-1,3-diylbismorpholine, and 1,8-azabicycloundecene.

6. The composition of claim 1 wherein said acid-labile moieties are pendant from said imaging polymer.

7. The composition of claim 1 wherein said acid-labile moieties are selected from the group consisting of acetal moieties and ketal moieties.

8. A method of forming a patterned material structure on a substrate, said method comprising:

(A) providing a substrate with a layer of said material,

(B) applying a resist composition of any of claims 1 to 7 to said substrate to form a resist layer on said substrate,

(C) patternwise exposing said substrate to radiation whereby acid is generated by radiation-sensitive acid generator in exposed regions of said resist layer,

(D) developing a patterned resist structure in said resist layer by removing radiation-exposed portions of said resist, and

(E) transferring resist structure pattern to said material layer by removing portions of said material layer through spaces in said resist structure pattern.

9. The method of claim 8 wherein said material is selected from the group consisting of organic dielectrics, metals, ceramics, and semiconductors.

10. The method of claim 8 wherein said acid-labile protecting group is a moiety selected from the group consisting of ketals, acetals and orthoesters.

11. The method of claim 8 wherein said transfer of step (F) comprises reactive ion etching.

12. The method of claim 8 wherein at least one intermediate layer is provided between said material layer and said resist layer, and step (E) comprises etching through said intermediate layer.

11. The method of claim 8 wherein said resist is thermally treated between steps (C) and (D).

12. The method of claim 8 wherein said radiation used in step (C) has a wavelength selected from the group consisting of 248 nm, 193 nm, 157 nm, 13.4 nm, 1.4 nm, and 1.1 nm.

13. The method of claim 8 where said radiation used in step (C) is selected from the group consisting of with electron beam and ion beam.

14. The method of claim 8 wherein said material layer is comprises a chromium-containing composition, SiON or TiN.

15. The method of claim 14 wherein said material layer is comprises a chromium-containing composition.

16. A method of forming a material structure on a substrate, the method comprising:

(A) providing a substrate,

(B) applying a resist composition of any of claims 1 to 7 to the substrate to form a resist layer on the substrate,

(C) patternwise exposing the substrate to radiation whereby acid is generated by radiation-sensitive acid generator in exposed regions of the resist layer,

(D) developing a patterned resist structure in the resist layer by removing radiation-exposed portions of the resist, and

(E) transferring resist structure pattern to the material by depositing the material onto the substrate or implanting material into the substrate at spaces in the resist structure pattern.

17. The method of claim 16 wherein said deposition of step (E) is done by electroplating, chemical vapor deposition or physical vapor deposition.